

What is claimed is:

1. A semiconductor device comprising a substrate and an electrode layer formed on the substrate,

5        wherein the electrode layer includes a plurality of conductive layers and an insulating layer which are stacked, the insulating layer being interposed between two of the conductive layers adjacent each other, a through-hole being formed in each of the conductive layers lower than an uppermost conductive layer among the conductive layers, and the through-hole being filled with an insulating material.

10        2. A method of manufacturing a three-dimensional stacking type semiconductor device using the semiconductor device as defined in claim 1, the method comprising:

15        a semiconductor device formation step which includes an electrode layer through-hole formation step of forming a hole in the uppermost conductive layer coaxially with the through-hole in each of the conductive layers lower than the uppermost conductive layer, and forming an electrode layer through-hole in the electrode layer by etching the insulating material, a step of forming a substrate through-hole connected with the electrode layer through-hole in the substrate, and a step of filling the electrode layer through-hole and the substrate through-hole with a  
20        conductive member; and

      a semiconductor device stacking step of stacking a plurality of the semiconductor devices by using a conductive member of each of the semiconductor devices.

25        3. A circuit board comprising a three-dimensional stacking type semiconductor device manufactured by using the manufacturing method as defined in claim 2.

4. An electronic instrument comprising the circuit board as defined in claim 3.